base station **62**. This value is provided to message generator **52** which generates a message indicative of the difference value. The message is transmitted as signaling data on the reverse link to reference base station **62** and slave base station **64** which send the message back to base station controller **66**.

VI. Measurement of Delay Between Transmission of Forward Link Signal From Slave Base Station and Receipt of Reverse link Signal at Slave Base Station

In step **311**, slave base station **64** measures the time difference between it received the reverse link signal from mobile station **60** (T_2) and the time it transmitted its forward link signal to mobile station **60** (T_1). Slave base station **64** stores the PN offset at the time it transmits its forward link signal and upon detection of the reverse link signal from mobile station **60** computes the time difference RTD_2. In the exemplary embodiment, this computed time difference is provided by slave base station **64** to base station controller **66** and the computation of the timing adjustment is conducted at base station **66**. It will be understood by one skilled in the art that the present invention is easily extended to the case wherein the computations are performed at the base stations or mobile stations.

VII. Timing Adjustment of Slave Base Station

Base station controller **66**, in response, performs the computation described in equation (12) and sends an indication of the necessary timing adjustment to slave base station **64**. Referring back to FIG. **7**, the timing adjustment

signal is received by slave base station **64** at control processor **100**. Control processor **100** generates and provides a control signal to timing adjustment processor **99**. Timing adjustment processor **99** generates a signal which changes the time of timing source **98** by the amount indicated in the signal from base station controller **66**.

We claim:

1. A method for time synchronizing a first base station with a reference base station comprising the steps of:

measuring a round trip delay interval of transmissions from said reference base station to a mobile station in communication with said reference base station and back from said mobile station to said reference base station;

measuring at said mobile station a first time difference between the time of receipt of a forward link signal from said first base station and the time of receipt of a forward link signal from said reference base station;

measuring at said first base station a second time difference between the receipt of a reverse link signal from said mobile station and the time of transmission of a forward link signal from said first base station; and

computing a timing correction value in accordance with said measured round trip delay interval, said first time difference and said second time difference.

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